

# 1N4001WS THRU 1N4007WS

## Surface Mount Standard Rectifiers

### Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:  
260°C/10 seconds at terminals

### Mechanical Data

- **Case:** SOD-323 molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per JESD22-B102
- **Polarity:** Laser band denotes cathode end

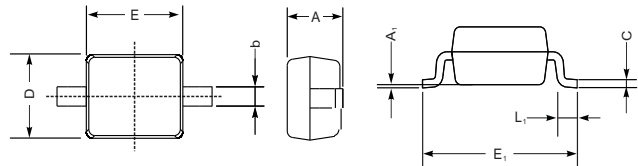
### VOLTAGE RANGE

50 to 1000 Volts

### CURRENT

1.0 Ampere

#### SOD323



UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—
mil	max	43	5.9	55	70	108	16	16	8
	min	32	3.1	47	63	100	9.8	7.9	—

### Maximum Ratings & Thermal Characteristics

(T<sub>A</sub> = 25 °C unless otherwise noted)

Items	Symbol	1N4001WS 1A	1N4002WS 2A	1N4003WS 3A	1N4004WS 4A	1N4005WS 5A	1N4006WS 6A	1N4007WS 7A	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at T <sub>L</sub> = 90 °C	I <sub>F(AV)</sub>	1							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	25							A
Thermal resistance from junction to lead <sup>(1)</sup>	R <sub>θJL</sub>	35							°C/W
Operating junction range	T <sub>J</sub>	-55 to +150							°C
storage temperature range	T <sub>STG</sub>	-55 to +150							°C

Note 1: Mounted on PCB with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

### Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	I <sub>F</sub> = 0.5A	V <sub>F</sub>	-	0.92	-	V
	I <sub>F</sub> = 1A <sup>(2)</sup>			0.98	1.1	
Reverse current	V <sub>R</sub> = V <sub>DC</sub>	I <sub>R</sub>	-	-	5	μA
					T <sub>A</sub> = 125 °C	

Note 2: Pulse test: 300μs pulse width, 1% duty cycle.

RATING AND CHARACTERISTIC CURVES (1N4001WS THRU 1N4007WS)

Fig.1 Forward Current Derating Curve

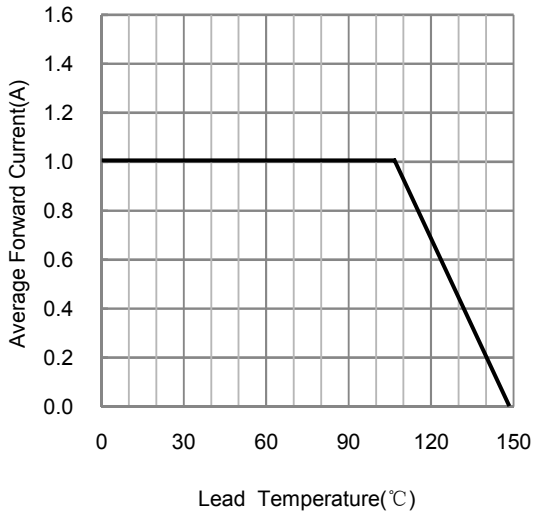


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

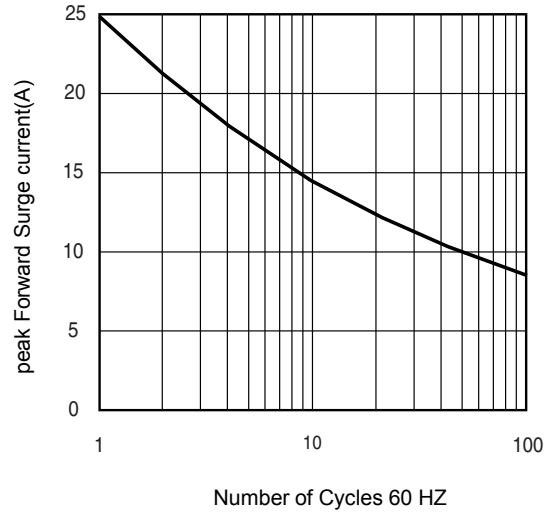


Fig.3 Typical Instantaneous Forward Characteristics

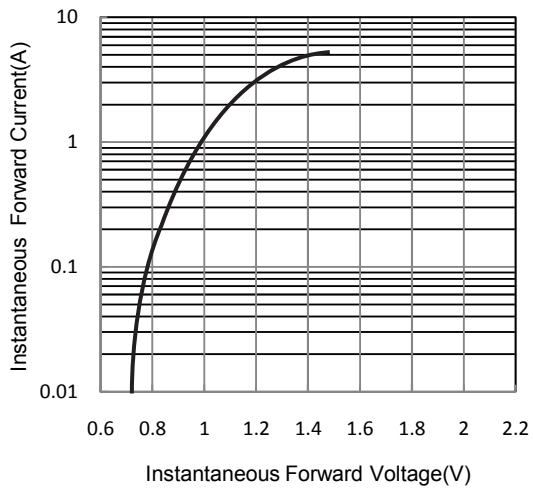


Fig.4 Typical Reverse Leakage Characteristics

